

**REMARKS/ARGUMENTS**

Claims 1-20 are pending in this application. No claims have been amended. No claims have been added. No claims have been cancelled. Applicants have thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the references cited therein. The following remarks are believed to be fully responsive to the Office Action. All of the claims at issue are believed to be patentable over the cited references.

**CLAIM REJECTIONS – 35 U.S.C. § 102(b)**

Claims 1-3, 6-8, 10-17, and 19-20 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated over U.S. Patent No. 6,697,703 to Clark, Jr. *et al.* ("Clark"). Applicants respectfully traverse.

Initially, Applicants note that it is axiomatic that to qualify as an anticipation under Section 102, the cited reference must "bear within its four corners adequate directions for the practice of the patent invalidated." (See, for example, Dewey & Almay Chemical Co. v. Mimex Co., Inc., 52 U.S.P.Q. 138 (2nd Cir. 1942)). Applicants respectfully submit that Clark offers no such directions.

As discussed in Applicants' Amendment Under 37 CFR § 1.111 received at the U.S. Patent and Trademark Office on February 13, 2006, the invention relates to audio monitoring or detecting of events produced by signals generated by locators, sonars or other prospection devices. The invention is directed to discriminating signals exhibiting little variation in their phase component. Such signals do not produce an audible output that is easily perceptible to humans.

Applicants' claimed invention separates a signal into two components, a phase component and an amplitude component. The components are directed to a phase processing path and an amplitude processing path, respectively. In the phase processing path, the phase is differentiated, up sampled, and scaled up (frequency stretched) before being mixed with a signal carrier located in an audio frequency range. In the amplitude processing path, the amplitude is up sampled. The amplitude and phase components are then combined to generate an audible signal that is delivered to an audio transducer. Applicants' invention, therefore, makes audible to humans those portions of a signal that are otherwise inaudible or barely audible.

Clark relates to a signal processing apparatus that analyzes and synthesizes complex time-varying signals over a wide range of frequencies and amplitudes in terms of selectable sets of expansion functions so that these signals may be represented in a simpler form. See, e.g., Abstract and column 1, lines 9-14. Clark uses Fourier transformation to produce Fourier phazor components. The phazor components are converted to resultant vector amplitudes and phases by carrier generation. *Id.* Use of the Fourier transformation enables analysis and synthesis of "waveforms that change with time and provide a representation most suitable to the case of study." Column 3, lines 24-25. Therefore, Clark is directed to an analyzer/synthesizer that analyzes and synthesizes complex time-varying signals and not digitally generating sound from phase and amplitude information of a narrow bandwidth signal as claimed by Applicants.

Clark does not disclose at least applying a frequency gain to the phase derivative information, summing the results of the applying with an audio wave carrier having an audio band frequency and outputting control information that includes the applying results imparted to the audio wave carrier, and converting, at an output sample rate that is higher than an audio band

frequency, amplitude and frequency modulation information to an analog amplitude/frequency modulated speaker control signal as claimed in independent claims 1, 13, 16, and 20.

The Office Action refers Applicants' attention to sections of Clark that allegedly support these features and other features of Applicants' claimed invention. For example, the Office Action refers Applicants' attention to column 13, line 54 to column 14, line 10 as allegedly teaching the features of applying, summing, outputting, and converting as claimed. Applicants respectfully note, however, that column 13, line 54 to column 14, line 10 does not teach or suggest these features. This passage discusses processing signals by converting phazor components of a Fourier transformation to a voltage that is proportional to the Fourier phase. The phazor components are converted by modulating a high frequency carrier with the phazor components. This passage does not teach or suggest the features of applying, summing, outputting, and converting as claimed.

By applying a frequency gain to the phase-derivative information, a sound level of the portions of an audio signal that are inaudible or barely audible is increased. These portions, with the higher sound level, are summed with an audio wave carrier having an audio band frequency and control information that is imparted to the audio wave carrier and includes these portions is output. Amplitude and frequency modulation information is converted at an output sample rate that is higher than the audio band frequency to a speaker control signal that may be used to output the audio signal having sound that is audible to a human. Clark does not teach or suggest at least these features. As such, Clark does not disclose all of the claim elements to support an anticipation rejection under 35 U.S.C. § 102 (b). Applicants, therefore, respectfully submit that independent claims 1, 13, 16, and 20 are allowable and request that the rejection be withdrawn.

Claims 2, 3, 6-8, 10-17, and 19 ultimately depend from at least one of independent claims 1, 13, and 16. As such, these claims are also allowable for at least the foregoing reasons.

#### **CLAIM REJECTIONS – 35 U.S.C. § 103(a)**

Claims 4 and 5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Clark as applied to claim 3, and further in view of U.S. Patent No. 6,732,070 to Rotola-Pukkile, *et al.* (“Rotola”). Additionally, claims 9 and 18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Clark.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. *MPEP* §2142. To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, to modify the references or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art must teach all the claim limitations. *MPEP* §2142.

Claims 4, 5, 9, and 18 ultimately depend from at least one of independent claims 1, 13, and 16. Therefore, these claims are also allowable for at least the foregoing reasons.

## CONCLUSION

In view of the foregoing remarks, Applicants respectfully request all the objections and rejections to the specification and claims be removed. If, for any reason, the Examiner disagrees, please call the undersigned attorney at 202-861-1706 in an effort to resolve any matter still outstanding before issuing another action. The undersigned attorney is confident that any issue, which might remain, can readily be worked out by telephone.

In the event this paper is not timely filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayments to Deposit Account No. 50-2036 with reference to Attorney Docket No. 87288.1620.

Respectfully submitted,

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